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ABSTRACT

The purpose of this study was to explore the potential of a self-study project which required explicit self-monitoring as a tool for initiating reflection in a group of novice teachers during their student teaching experience. The study was structured to encourage student teachers to bring to a conscious level of awareness a problem within their own teaching practice to enable the ongoing monitoring of changes in teaching performance and the effects of the changes on students. A premise of this work was that it is essential for student teachers to be placed in a position of having to reflect on problems of practice which are of current concern to them. An important aspect of this exploratory study was the opportunity to examine the range of problems that student teachers would consider problematic. The student teachers were directed to identify a problem in their own practice, develop a means of addressing it, work on the problem until change was evident and consistent, and monitor progress explicitly. The paper presents the results of 18 self-study projects conducted by elementary education teachers. The work reported indicates that self-study may hold promise as a useful means of sensitizing novice teachers to self-monitoring as a critical feature of reflective teaching. (JD)

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Self-Study: The Genesis of Reflection in Novice Teachers?

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Self-Study: The Genesis of Reflection in Novice Teachers?

Despite the great variation associated with promoting a reflective approach to teaching, on the whole those who are concerned with the preparation of teachers have found reflection to be a valuable metaphor for counteracting the belief that teaching is simply the acquisition of technique and technical skill. Recently there have been a number of efforts to clarify what is meant by the term "reflective teaching" and to provide perspective on its various interpretations (see, for example, Calderhead, 1989; Grimmett & Erickson, 1988; Clift, Houston, & Pugach, 1990). At the level of preservice preparation, Ross (1990) describes two general goals for reflective teacher education programs: increasing the scope of teachers' appreciation systems, and teaching specific elements of the reflective process.

In Ross' analysis, these "elements" of reflection may include ethnography, journal writing, and the structured study of classrooms through action research. Connelly and Clandinin (1988) extend the identification of reflective tools to include also biography, picturing, storytelling, letter writing, and teacher interviews. Through the use of these and other such activities, teachers are meant to gain new understandings of themselves as professionals and heightened awareness of the implications of their teaching acts and decisions.

Despite the steadily increasing focus on reflection as a general goal for teacher education and the use of these tools, however, more work is needed regarding alternative approaches to reflection, how reflection actually operates in practice, and specifically how the metacognitive skills of teaching can be enhanced (Calderhead, 1989). Calderhead's

(1989) primary concern rests with identifying tasks or activities that at once promote reflection and are appropriate to the limited levels of experience held by novice teachers, and specifically student teachers. He further suggests that if the potential for reflective teaching is to be realized, it will be critical to make progressively finer discriminations among activities appropriate for promoting reflection with different levels of learners. Similarly, Borko and Livingston (1989) make a important distinction between preservice experiences which are designed to help novice teachers act like reflective, expert teachers and those which are based in the understanding that novices go through sequences in the process of becoming experts and may be unlikely to adopt expert practices readily. Focusing specifically on how preservice teacher education might be reconceptualized, Kagan (1988) raises two related issues: the need to foster the development of schemata specifically in novice teachers and the need to facilitate the acquisition of their metacognitive thinking.

Taken together, these suggestions appear to support the consideration of a developmental perspective in defining reflective activities for teacher education and also raise questions about the effectiveness of global approaches which have characterized early efforts toward establishing reflection as a goal for teacher education. Further, the distinction offered by Borko and Livingston (1989) would seem to imply that the concept of a zone of proximal development (Vygotsky, 1978) may aptly apply to the education of novice teachers. That is, in our press to prepare beginning teachers to become as "expert" as possible, we may be failing to recognize their real limits of independent functioning as "teachers" and thus missing important opportunities for guiding preservice students to more complex levels of professional development for which they

might be ready. Or, as Calderhead states, problems in specifying appropriate activities for reflection "highlight the need for teacher training courses to provide tasks of a nature and level where students teachers are both able to perform the given tasks and able to learn from them" (p. 49). Thus, an important challenge for those who are interested in reflective approaches to teacher education is identifying practical activities suited to the abilities and experiences of novice teachers and which expressly require reflection on teaching performance (Noordhoff & Kleinfeld, 1990).

One important class of activities to consider in this context are those which have the potential to foster the specific metacognitive skill of monitoring, or appraising, one's teaching. The ability to monitor is considered a hallmark of metacognitive thinking (Brown, 1978); without this self-regulatory capability as it relates to teaching, it would be possible for a teacher to engage in his or her routine classroom practice without being aware of or concerned with its relationship to students. In the absence of the disposition to monitor, teachers might as well, as Jackson (1986) has reminded us, be teaching via television or radio--a situation in which no direct relationship with students is inferred. It is precisely because teachers have a continuous audience to whom they are responsible that the concept of monitoring takes on such a critical meaning in the preparation of teachers. The development of this "third eye" is essential for helping novice teachers learn to take responsibility for the kinds of communities they have created in their own classrooms and for changes which may improve them.

The study reported in this paper is consistent with these concerns for the identification of more well-defined strategies to facilitate the

acquisition of reflective, metacognitive dispositions in novice teachers. Its purpose was to explore the potential of a self-study project which required explicit self-monitoring as a tool for initiating reflection in a group of novice teachers during their student teaching experience. This pilot study was structured to encourage student teachers to bring to a conscious level of awareness a problem within their own teaching practice to enable the monitoring of changes in teaching performance and their effect on students to take place on an ongoing basis.

Because student teaching is typically a time when novices seem to be virtually consumed by daily survival in teaching, this is not likely to be an optimal situation in which to expect reflection on the more complex problems of teaching. However, it is also critical that student teachers at least begin to engage in the practice of reflection actively, in meaningful and purposeful ways that legitimize its value. A premise of this work, then, was that it is essential for student teachers to be placed in the position of having to reflect on problems of practice which are of current concern to them, rather than to press them into reflecting primarily on issues which may at this point be beyond their scope of thinking and experience. That is, while the problems student teachers identify may not be deemed important in the larger scheme of teaching and learning, during the overwhelming period of student teaching these larger issues may hold less salience as objects of reflection. In accepting such a premise, an important aspect of this exploratory study was examining the range of problems student teachers would consider problematic.

For their self-study projects, student teachers were directed to identify a problem in their own practice, develop a means of addressing it, work on the problem until change was evident and consistent, and

monitor progress explicitly. Each project, then, was intended to represent a case of self-directed and self-monitored change in teaching for a novice teacher. In contrast to action research, which is not necessarily limited to a narrowly defined practice and which is most often carried out collegially, these self-studies were focused specifically on problems that could easily be identified and monitored and were carried out chiefly by the student teachers. Thus, while the format was relatively restricted, the teaching practices to be identified as problematic were not defined or restricted in any way.

In addition to the question of what practices would be seen as problematic, the following considerations also guided this study. How would student teachers justify their choices and what sources would they report as influencing their selection of problematic practices? What methods would they use for changing their teaching practices and how would they monitor their teaching for changes? How successful would they be in making changes and how would they characterize the nature of the process of change? And finally, what value would they assign to the self-study experience?

Method

Setting and Subjects

This paper includes the results of eighteen self-study projects required of all elementary education student teachers in the spring of 1989 as part of the requirement for completion of student teaching. In this particular teacher education program, located at the University of Wisconsin-Milwaukee, student teaching consists of a 20-week placement in a single school, usually at two grade levels ranging from first to fifth grade but sometimes at a single grade level for the whole semester.

Accompanying student teaching is a required weekly seminar which serves to integrate practice and prior coursework and to deal with practical issues arising in the classrooms. The sample reported here represents one section of the seminar, or one-third of all elementary student teachers that semester.

Prior to this final semester of student teaching, clinical experiences include a one-semester field placement as part of an introductory course on teaching and a series of shorter placements associated with subject specific methods. Students in this program include both undergraduate teacher education majors and postbaccalaureate students together, with the majority being undergraduate students. As is conventional in many teacher education programs, they usually complete their undergraduate preparation in four-and-a-half to five years.

During their orientation to student teaching, one of the goals of the overall experience was described as increasing their ability to engage in self-appraisal. The disposition to do so appeared on the forms used by supervisors in evaluating lessons they observed. A self-evaluation was required for all substantive lessons taught. However, the self-study project was the only project which was explicitly focused on self-appraisal.

Procedures

At the beginning of the semester all students were given written descriptions of classroom-based assignments for the period of their student teaching. Included was a one-and-one half page description of the self-study project, but no sample projects were supplied. Students were free to select whatever focus they wished as the object of their self-study.

Once a problematic practice was selected, student teachers were generally directed to describe the problem and the reason for addressing it and verify its existence through the collection of baseline data, develop a means of addressing the problem by identifying a strategy for improvement, implement the plan, and systematically monitor changes in teaching. Students were asked to initiate their self-study projects during the second 10-week phase to allow them ample time to gain familiarity with the settings, pupils, and their own ways of operating as professionals. After the project was introduced briefly at the beginning of the semester, it was reviewed in detail as the second half of the semester approached.

The form on which projects were recorded was divided into the following sections: setting, aim, definition of problem behavior, rationale, observation strategy/measurement technique, materials, procedures, results and discussion. The procedures were divided into two phases, baseline and intervention, consistent with the conventions of an AB design in single subject research. Students were asked to collect at least three days of baseline data and monitor their practice for at least two weeks, with a request for a follow-up measure two weeks following the close of the project.

Data Source

Written descriptions of all projects, including raw data, were submitted and followed the format described above, with the stipulation that the data were also to be presented graphically or in tabled format. Each project resulted in both a quantitative and narrative set of data for analysis. In addition to the raw and graphic data themselves, problem types and rationales for their selection were content analyzed to develop

categories representing these data. The discussions provided more extensive narrative data.

Results and Discussion

The first part of this section describes quantitative analyses derived from the data directly or from content analyses of the data as well as examples of specific results from six projects. The second part addresses narrative portions of the self-study projects.

Problem Selection and Change Strategies

Table 1 includes a classification of the kinds of practices this groups defined as problematic; it represents a relatively limited range of concerns. The category "improving the quality of teacher verbalizations" included the following kinds of problems: varying voice quality to increase teacher enthusiasm, reducing the use of the term "OK," and enunciating the endings of words completely. Examples of projects focused on "increasing positive teacher responses" included learning to focus on good behaviors in contrast to those that were unacceptable and extending positive remarks to whole group instruction as opposed to only small group work. Projects on "meeting the needs of all students" generally related to providing equitable opportunities for participating and receiving feedback and included practices like calling on boys and girls equally or calling on a greater range of students during reading group. For the category "improving the quality of teacher talk" examples included improving instructions to the reading group through elaboration and clarifying directions through demonstrations with a first grade class. Two students stated that they chose the problem based on their cooperating teacher's remarks, two stated that they "knew" this problem existed, five noted input from their university supervisor, and the remaining eleven did

not offer a source for their choice. However, the rationale statement did not explicitly require identification of the source, and it may be the case that some problems were in fact identified in conversation with either cooperating teachers or supervisors.

Table 2 displays a classification of the various kinds of rationales student teachers stated for selecting the targeted problems for self-study. Four students appealed formally to research or to a general sense of authority regarding what constitutes good teaching as a rationale for their work. Most, however, described the problem in practical terms in the context of what seemed best for students or for their own progress in learning to teach. Rationales stated most frequently related to (1) the effect of the problematic behavior on the relationship between teacher and students, and (2) the need for a solution to a practical problem. Table 3 relates the kinds of problems selected for study and the rationales given to support student teachers' choices of problems and indicates that for two problem categories, teacher verbalizations and positive teacher responses, students ascribed their importance to a broader range of rationales than for any other problem type. Focusing solely on the problem selected for study as a reading of individual levels of awareness may mask other levels of students' appreciation that emerge in the fuller problem descriptions.

Relative to methods for obtaining baseline and monitoring progress, Table 4 indicates the range of data sources utilized. Although the use of audiotapes was not uncommon, no student teacher chose to videotape his or her teaching as a means of monitoring. Further, cooperating teachers were asked to serve in the role of monitors by only about one-fourth of the student teachers. Whether projects would have changed substantially with

the active, consistent involvement of cooperating teacher is an important issue to address.

Students developed a variety of plans to assist them in changing their practice. These included for example, visual reminders, "mental" reminders, cueing from cooperating teachers, class charts for tracking pupil participation and other pupil behaviors, lists of alternative ways of responding to students, daily discussions with cooperating teachers, improved daily planning, and elaboration of instructions through multiple modes of presentation.

Figures 1-5 represent specific examples of the data for a range of problems types selected for self-study. For all projects, differences existed in terms of the length of time students chose to work on their studies, varying in range from 7 to 39 days. These graphs generally show positive trends and indicate that students did improve the specific practices which they had chosen to study and monitor. However, they also show that not all students monitored their projects for the full two weeks plus baseline. Supporting students' monitoring efforts might be an important role for a cooperating teacher as projects continue over time.

The kinds of problems students selected reflect a range of concerns and include some with little connection between the targeted act of teaching and student learning, such as reducing "OK's" or improving enunciation. On the other extreme are those with the potential to have a substantive impact, such as monitoring who is called on in class and, thus, increasing children's opportunities to participate actively and receive feedback. Between these relative endpoints lie a variety of problems associated more directly with classroom management and communication. It is important also to note that none of the problems

related to the content of the curriculum nor did they really address the issue of meaning and purpose in the act of teaching.

The relatively trivial nature of at least some of the practices selected for study, such as those in the category of teacher verbalization, is problematic precisely because these practices are so marginally related to more substantive issues of teaching and learning. These choices may have been influenced by a desire on the part of the students to simplify the project, which required a specific measure; that is, they may have chosen what they thought they could easily measure. On the other hand, narrative descriptions reveal that to the students these were problems they believed were getting in the way of their initial progress in becoming teachers.

This poses a dilemma when allowing students to make the selections of what they wish to study. With respect to the projects on teacher verbalization described above, there is a pressing need at the least to help student teachers select a problem they can link to student learning. Their choices, however, represent behaviors they would like to change systematically and which, often, are identified as being in need of attention in the process of supervision. In these cases it seems important to have students begin to make distinctions between what is a worthy focus for their awareness-building and reflection and what is simply a personal habit that may require some attention. However, such distinctions are tricky because it is also important to begin the discussion at a level that allows the student teacher to identify a meaningful problem--and work from that point forward. This might suggest a direction for teacher education more consistent with metacognitive training in the mode of Palincsar and Brown's (1984) work on strategic dialogue.

Further, within classifications of problems which do relate the acts of teaching and learning more directly, student teachers' understandings of this relationship also vary greatly and require guidance. This variability is addressed in the next section.

Narrative Discussions

The raw and graphed or tabled data from the self-study projects were accompanied by narrative discussions which reflected differences in students' perceptions of the projects, their perceived importance, and the relationship of the self-study to student learning. The following passages represent three student teachers, all of whom decided to increase the use of positive statements in their teaching. Fictitious names have been used throughout this section.

Brenda.

> These children are so used to every teacher and substitute teacher saying, "I like the way Johnny is working quietly at his desk" that they more or less ignore it. If it's always, "Johnny," then the rest begin to dislike Johnny and it becomes negative reinforcement instead. Positive comments by a teacher only succeed if they are sincere. When this happens good feelings grow between the teacher and student, and the student hopefully strives to continue in a positive direction.

Alice.

> Initially I concentrated on giving the whole group points because it was a very tangible way to keep track of how often I used encouragement. The tape recordings really helped in terms of being able to detect progress (or stagnation) as well as helping me to vary my phrases and manner in which I tended to encourage. What I also noticed happening was a greater response from the students; their work habits improved as well as their attitudes. One problem I ran into was that Pat was often not in the room to utilize the tape recorder, so I ended up turning it on most of the time. I didn't use it then for two weeks, then turned it on one morning. I was happy to find that I was much more encouraging in a variety of ways than I had been five weeks before. One of the ways I decided to get feedback from the students was to ask, "what do you like to be told when you are working as hard as you can?" We put the question on the board and made tallies and bar graphs for a math lesson. This was valuable information for me, and the students were learning

> graphing skills. We also did graphs (pictures, etc.) with the question, "What don't you like people to say to you when you are working hard and trying your best?" I think this activity helped me a great deal, but I also realized that I must constantly be aware of my behavior, including the one discussed above, to continually improve.
>
> Molly.
>
> I am glad I decided to pursue this behavior. Teaching is less stressful if I am not always disturbed by the negative behaviors. Students respond better because they like the positive attention they receive. Overall, I feel my project was a success.

Clearly there were marked differences in these students' appreciations of the importance of the aspect of practice they chose to study. While each appeared to assign importance to the need to create a more positive climate in the classroom, the relationship of the practice to teaching and learning differed substantively. Brenda and Molly both mentioned the potential for improvement in students' behavior as a result of using more positive comments. Although both are characterized by some degree of dogmatism, Brenda focused on the need to create a sincere relationship with the child, one which results in a better overall relationship between student and teachers. She also took issue with the common practice of using praise to achieve a ripple effect. In contrast, Molly was interested in reducing her own level of stress; her comments about the effects of positive attention conveyed a much stronger sense of dogmatism and seem to be unconnected to the individual students she taught.

Alice viewed the situation in a much more integrated fashion, commenting on the effect of her changes on the students' learning and attitudes. She also used the project as an opportunity to integrate the curriculum, using the students' concerns and preferences as a jumping off point for her own source of information for changing the way she

interacted with the students as well as lesson material. It should be noted that Alice was a post-baccalaureate student who had a considerable amount of experience as a paraprofessional in the elementary schools.

The discussion for the project on wait time showed a similar concern for going beyond the measured goal and took into consideration the effect of the change on students. This student teacher only monitored her wait time for eight days and the data themselves were not striking. In the discussion, however, she raised a series of issues, including the potential for the students to engage more fully in thinking about their responses.

> I really did find success when I gave students the full 5 seconds. The raw numbers don't really tell the whole story. The correct answers did increase, however, I also noticed that I got more from the students when I was patient and really gave them a chance. I also noticed that it gave the students who weren't paying attention time to get with the program. I'm not so sure this is the best thing, but at least it pulls them back in. The students are also getting used to the idea that I'm not going to just go on, I'm going to wait and get an answer. I think that by giving students more time to think about their answers teachers will elicit more creative and complete answers.

In contrast, discussions of some projects were far less attentive to students' needs. For example, in the following narrative Linda provided a relatively objective description grounded in the practical concerns she had. The sense is one of working to get the whole class under control--seeing them as a whole, singular unit:

> I found that one of the most effective means of cutting down on the wasted time was to give students a time limit and then count down. The students seemed to move much more quickly when they knew they only had 10 seconds or 1 minute. Another technique I used was to recognize those students who responded quickly to direction. I would say things like, "Wow, look how quickly Annie and Crystal got those papers put away!" Sometimes if I saw two or three students dawdling, I put them in competition against each other to see who could get their things put away first. I also tried to give students something to look forward to in the upcoming lesson or activity. In the beginning of the project, I was spending on the average about five minutes on transitions. I have reduced that to about 1-3 minutes which I am pleased with.

Although she broached the subject of motivating students by setting them up to look forward to the next lesson, Linda was unable to place motivation into a broader context and make the link between practice and knowledge of principles of motivation. In other words, she is tied to practice alone and is not yet able to engage in seeing her teaching as "deliberate action" (Kennedy, 1987).

Still other discussions portrayed the actual movement from external to internal ability to monitor teaching performance. For Jane, the student who wanted to control her voice tone when disciplining students, gaining a sense of confidence was critical:

> It didn't really matter what I did--the better planning gave me the security I needed to be calmer and thus the children stayed calmer. For I while I was dependent on Chris to let me know when the problem was occurring. After a couple of weeks I was able to maintain the behavior myself. I now have several "problem" students I watch for feedback on how I am maintaining the better voice. These students are my barometers and they are very reliable.

Jane was able to make the important connection between planning and potential problems in management and see how her efforts in planning paid off. In this case, Chris the cooperating teacher, provided the external guidance Jane needed to track her reactions to the children until Jane was able to internalize the task of monitoring her own performance. Later on, by identifying students by whom she could gauge her progress, Jane could feel confident in handling what was initially a stressful situation. This particular project seems to be a case where the student teacher explicitly used student cues to make interactive teaching decisions, a practice that may be more common with respect to issues of classroom management than instruction (Clark & Peterson, 1986).

In terms of the value assigned to the self-study project, once students became aware of the problematic practice and recognized its implications, they reported finding it difficult not to alter their teaching. By identifying the situation and voicing its problematic nature, they seemed to attend to it immediately. In their narrative descriptions of the projects, student teachers described the process as one of becoming conscious of the problem, having to think consciously on a consistent basis about how to change, and finally reaching the point where the change became more automatic--a new kind of routine. A student who elected to work on calling on more students more equally reacted this way:

> I was finding myself calling on the people who I was to keep control of and on task. This often left the rest of the group to just follow along on their own and not participating very much. This was not fair to them and did not let me get to know their abilities. As you can probably see, by the end of my baseline week, I was already evening out my rate of calling on people. So I don't think the problem was so bad that it took a lot to change my ways, just an effort and a realization of what I was doing. Since I had already begun "changing" my ways, I wrote down the Mon, Wed, and Fri of my intervention to make sure that it was evening out. Overall, it went well and is now easier for me to be fair to everyone.

A second example of a student who commented on her increased awareness of the problem follows. In this case, the student teacher tried to keep track of students' infractions of rules by placing their names on the board in a timely fashion. She wrote:

> I tried to be accurate but I know there were times I probably forgot some names. What this project did was make me aware of the need to respond quicker. I began to focus my attention on changing and I was able to accomplish this as a result. I don't know if one can accurately compute one's own behavior with so much that goes on, but in making the effort, one focuses on the change that must take place, and that in itself is helpful. As putting the names on the board became second nature to me I found less need to put names up. The students were behaving better.

A third student also commented on bringing the problem to a conscious level. She did not, however, see her work as being over with respect to the particular aspect of their teaching she chose to monitor:

> Hopefully this will become habitual, but I will also tape occasionally and possibly have a second listener. As the raw data shows, I started out really well! The awareness and intensive thought about what I wanted to do was the reason for the improvement. As I continued to work on this behavior I began to get lax in cluing into what I was trying to accomplish, so I had to get tough again. When I started concentrating on this some more, the number of times I forgot endings decreased again. This is where it stands as of now. I realize I can control it, but I need to be conscious of what I am doing...

Other students also remarked on the gradual move toward automaticity but the continuing need for self-monitoring. The progress, but lack of what they felt to be completion, is expressed in the following statement: "I still have to think about doing it. It doesn't come automatically yet, but I'm trying. I hope for it to become second nature to me in time." These responses all seem to pertain to achieving automaticity in the development of teaching routines, which Leinhardt and Greeno (1986) argue is a characteristic of skilled teachers. Thus, while the goal of those who promote reflective teaching is to focus teachers' cognitions on the substantive aims of teaching, what novices may first have to acquire is a degree of fluency with the basic routines they need to master. And the routines themselves may be appropriate matter for reflection at the early stages of learning to teach; by focusing self-study on their acquisition, the process of reaching automaticity may, in fact, be accelerated, thus reserving cognitive "space" for other, more substantive issues.

Conclusions and Future Directions

As the search for strategies that promote teacher reflection continues, the exploratory work reported in this paper indicates that

self-study may hold promise as a useful means of sensitizing novice teachers to self-monitoring as a critical feature of reflective teaching. Such monitoring provides an ongoing catalyst for increased teacher awareness in the midst of the stimulus-loaded classroom environment. In this sense, it may provide a practical complement to other tools now used to promote reflection. To emphasize the importance of building a high level of awareness, it would be important to make its acquisition an explicit issue for novice teachers--perhaps calling the awareness of teaching and its effects on children and youth "metateaching." Such a term might help prospective teachers conceptualize the particularly crucial nature of their responsibility to engage in the reflective act of monitoring as a regular part of their teaching practice.

While the heightening of awareness itself seems to have been accomplished through these projects, the issue of what students teachers are more aware <u>of</u> as a result of these experiences needs further discussion and is one of the more important issues this study raises. It seems evident that student teachers bring different conceptions of problems to the surface when asked to be explicit about what is problematic in their teaching performance. Using these self-selected problems as points of departure for reflection seems reasonable for the simple reason that they constitute some of the more prominent worries and concerns student teachers are experiencing at this level in their professional development. In other words, they may reflect current zones of proximal development for student teachers. In future studies, a differentiation needs to be made between using these problems as objects of self-study and using them as starting points for the development of more reflective, sophisticated understandings of them.

If we wish to begin where student teachers are and accept their interpretations of what problems are "important," teacher educators may need to exercise a kind of restrained guidance in moving students from their expressed appreciations of problems to progressively more complex interpretations. For example, the student who chose to work on reducing "OKs" might be encouraged at least to select a problem that is more directly related to student learning, or at least to broaden her rationale to include the notion of the effect of teacher modeling and perhaps choose another example of modeling. The student who chose to work on transitions might be encouraged to discuss this dynamic in the context of motivation as a general principle. The student who wanted to increase positive comments might be encouraged to see the overall climate of the classroom as a critical part of this aspect of practice.

How to achieve these gradual movements in a meaningful way is a serious challenge for teacher educators who are interested in reflective teaching. If students of teaching are to begin to see the connections between their performance and the larger dimensions of teaching and learning--but not to distance them from problems that hold immediate meaning for them--one approach would be to push their limits of independent thinking on these topics through carefully guided dialogue. Such guided movement towards greater complexity is consistent with the notion of scaffolded instruction associated with the development of strategic, metacognitive thinking (Palincsar, 1986). If this stance is adopted, it is the structured interaction between the teacher educator or cooperating teacher and the student teacher that would constitute a reflective act and contribute to building a greater awareness of the effects of one's own teaching on pupils.

In the context of a self-study project, in future research scaffolded dialogue could be incorporated into a more structured format where, after initially identifying problems they wish to study, student teachers could engage in dialogue prior to beginning the actual act of monitoring. Thus, in addition to the goal of increasing awareness as a feature of monitoring practice, the projects would, through scaffolded dialogue, also increase students' appreciations of the problems themselves and the relationship of the problems to the teaching and learning process. The dialogue should extend also to the selection of an observation strategy to assist students in moving away from choosing problems because they appear to be easy to measure.

As a result of these changes, self-study projects might become a reflective tool with the potential to develop two metacognitive aspects of teaching: the act of monitoring itself and the disposition to place problems to be monitored in a broader context. Enhancing these more reflective approaches to teaching might generally serve to heighten novices' awareness of the consequences of their teaching decisions. As more complex approaches to problem identification are achieved, the likelihood of internalizing such thinking should increase.

If scaffolded dialogue is incorporated into the process of teacher education, another question that arises relates to the role of cooperating teachers. One important alternative function they could play would be to provide the structured guidance a scaffolded dialogue demands. However, preparation would be needed on the part of practicing teachers who would work in this capacity. Such an approach might also serve a dual function: providing cooperating teachers with a more specialized role as well as raising their own awareness regarding how to look at, or reflect on, their

own practice. Part of the preparation for being a cooperating teacher could be to engage in structured self-study prior to receiving a student teacher. With such experience, cooperating teachers could play an active role in the helping student teachers identify measures that would allow monitoring of more complex aspects of practice. They could also assure that student teachers continue the process of monitoring. On another level, a series of studies with cooperating teachers would also provide an important data base which would allow comparison of problems types selected by cooperating teachers and student teachers.

If the potential of reflective teaching is to be realized, it will have to be studied on multiple levels. For novice teachers, the level of classroom practice is a logical place to begin to understand the role of reflection and, more importantly, to experience how it feels to reflect on practice. Focused self-study on specific teaching practices may play an important role in the early acquisition of the dispostion to be reflective about teaching and learning.

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Table 1

Classification of Problems Selected for Self-Study

Problem Type	Frequency	Percent
Improve quality of teacher verbalizations	4	22
Improve classroom management[1]	4	22
Increase positive teacher responses	3	17
Meet needs of all students	3	17
Improve clarity/content of teacher talk	3	17
Increase wait time	1	5

[1]Includes transitions, quick identification of misbehavior, eliminating rhetorical questions, and keeping a calm tone of voice when disciplining students.

Table 2

Rationale for Selecting Topic for Self-Study

Rationale	Frequency	Percent
Relationship between teacher and students is affected	7	35
Practical problem that needs attention	6	30
Concept is important/appeal to authority on what is good teaching	4	20
Student teacher's stress will be reduced	2	10
Need to validate the concept in practice	1	5

Note. Some rationales contained more than one idea, so totals exceed number of subjects.

Table 3

Relationship of Problem Type to Rationale for Problem Selection

Problem Type	Rationale				
	Relationship affected	Practical problem	Important concept	Teacher stress reduced	Validate in practice
Teacher verbalization	1	1	1	1	-
Classroom management	2	2	-	-	-
Positive teacher responses	1	1	1	1	-
Meet all students' needs	3	-	-	-	-
Content/clarity of teacher talk	-	2	2	-	-
Wait Time	-	-	-	-	1

Table 4

Methods of Data Collection for Self-Study Projects

Sources	Frequency	Percent
Tape Recordings	5	28
Student Recorder	4	22
Cooperating Teacher Recorder	4	22
Self-Recording	4	22
Permanent Product	1	5

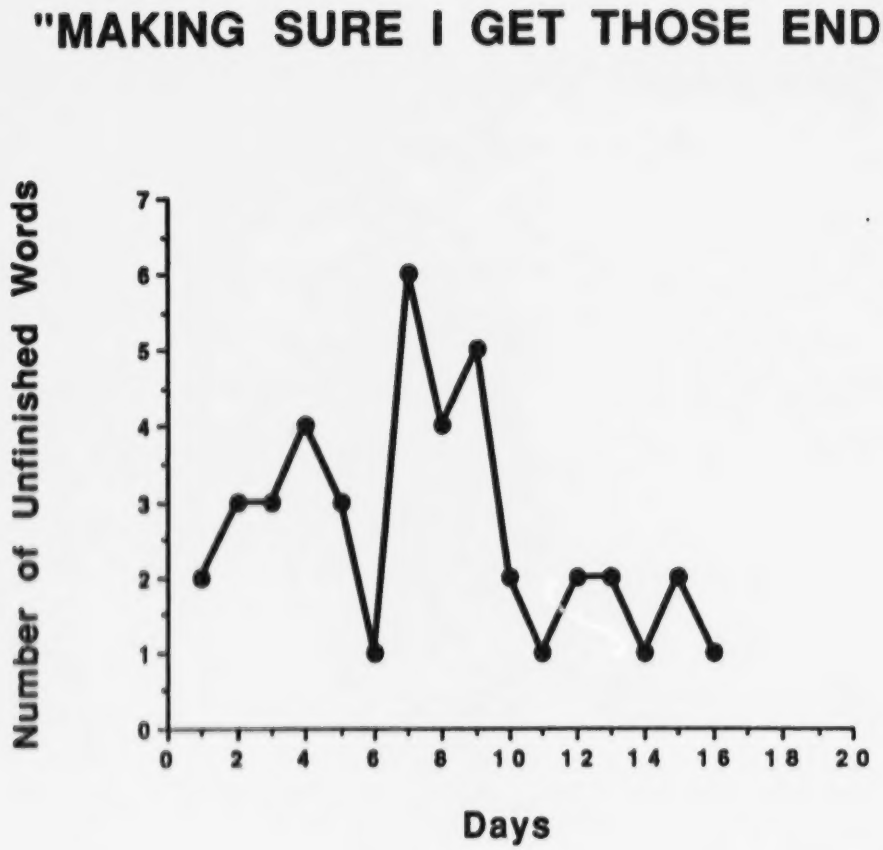

Figure 1. Teacher verbalization project.

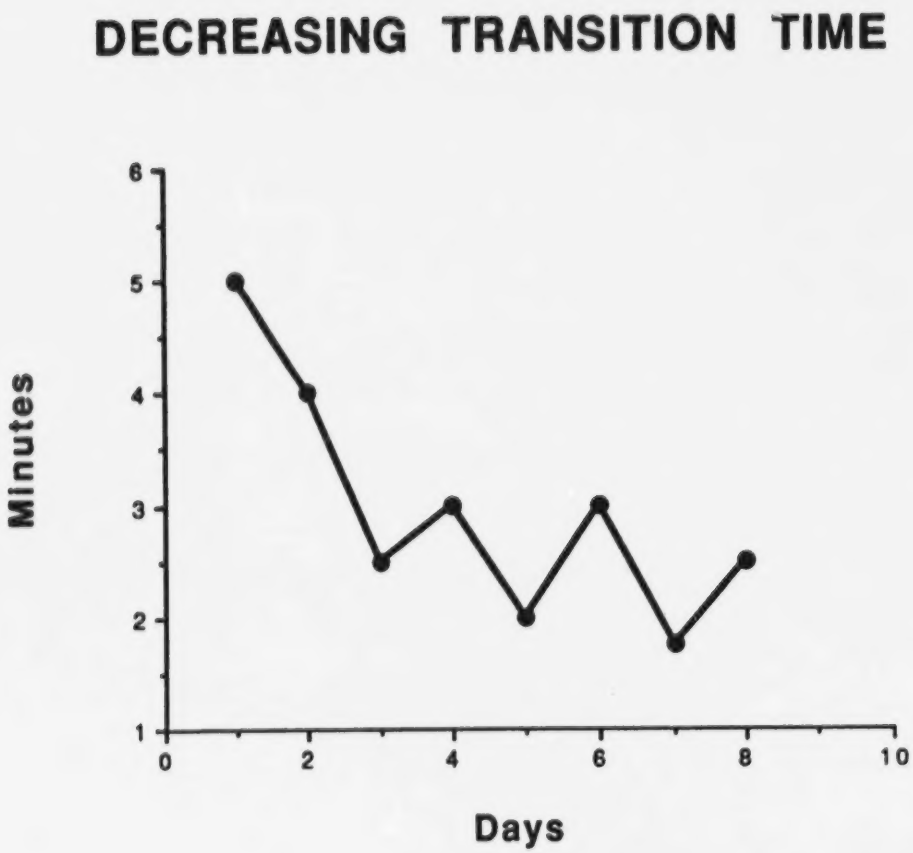

Figure 2. Management project.

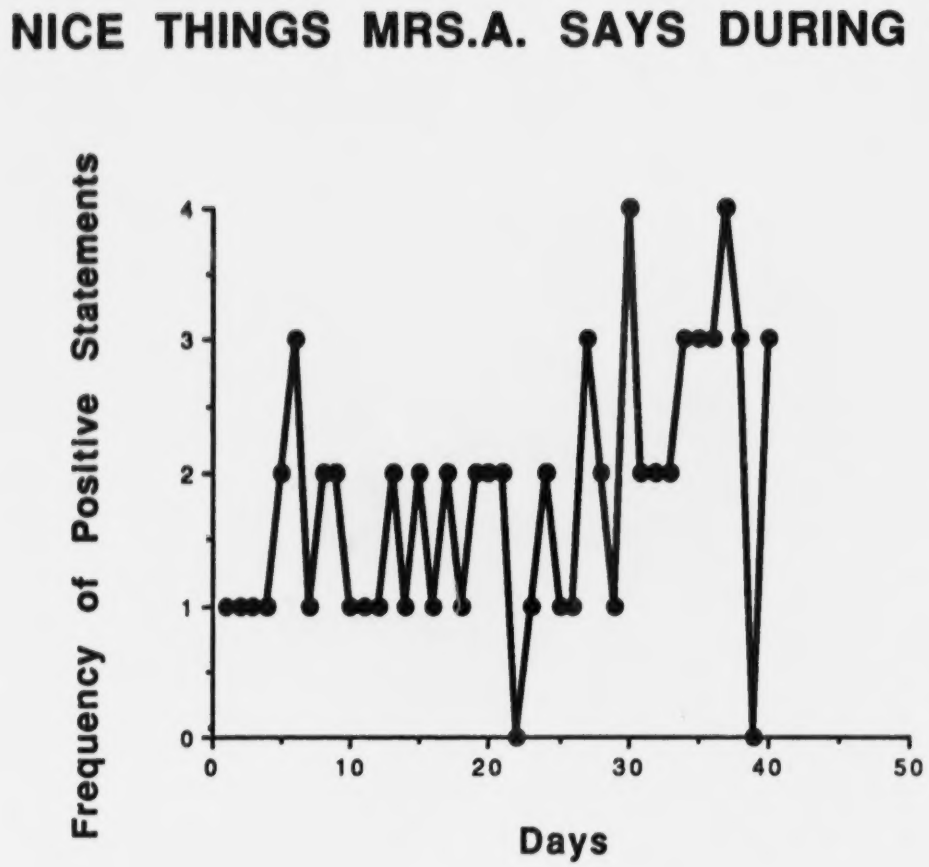

Figure 3. Increasing positive comments project.

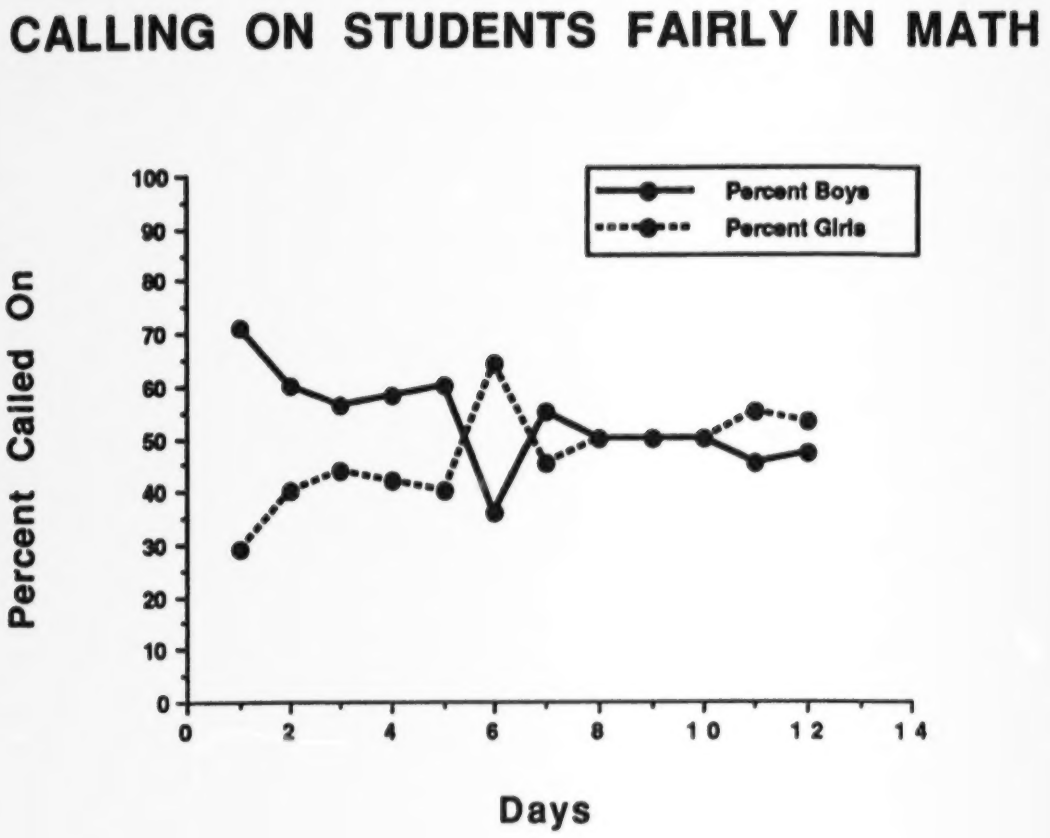

Figure 4. Meeting students' needs project.

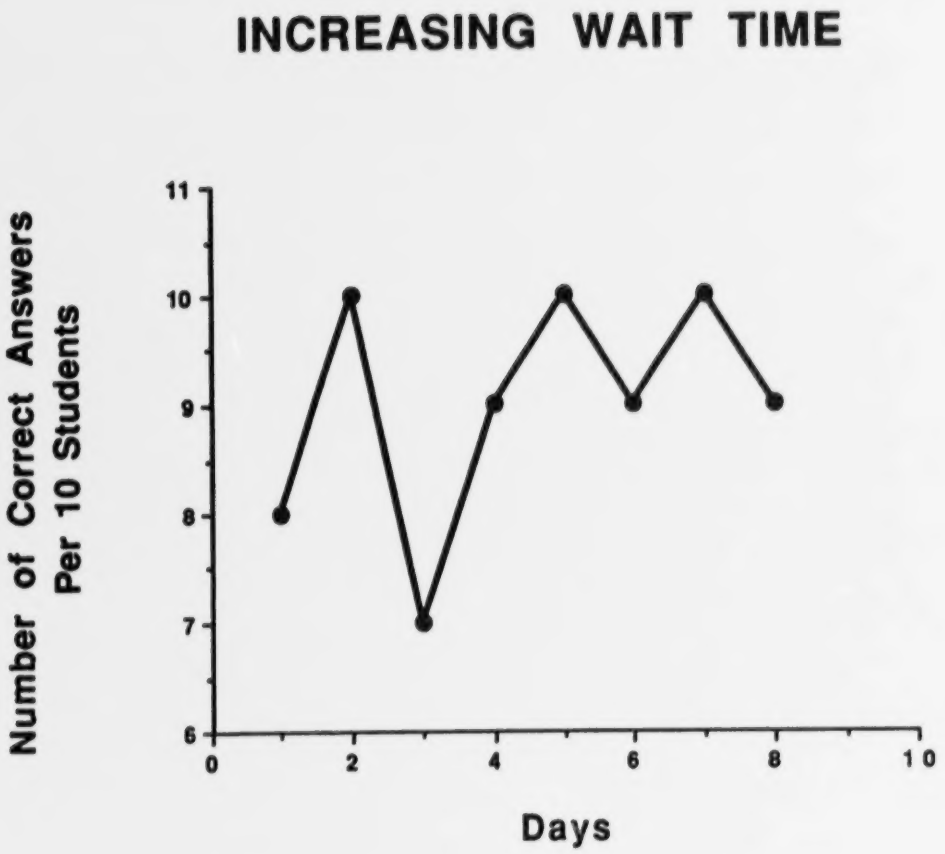

Figure 5. Validating concept of wait time project.

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